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# United States Patent [19]

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[54] **METHOD FOR TREATING CARDIOVASCULAR DISEASE THROUGH ADJUNCTIVE PHOTODYNAMIC THERAPY**

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[58] **Field of Search** ..... 604/19-22, 604/96; 128/898; 606/194, 2, 7, 192, 8, 15; 623/1, 11, 12

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[57] **ABSTRACT**

Photodynamic Therapy (PDT) is used as an adjunctive or stand alone procedure for the treatment of cardiovascular disease. When used as an adjunctive therapy to Percutaneous Transluminal Coronary Angioplasty, laser angioplasty, atherectomy, stenting, or any other interventional or surgical procedure, it has been found that the treatment timing is critical to the success of the combined therapies. A photosensitizer is administered prior to the surgical or interventional procedure and then readministered after the procedure to maintain the photosensitizer concentration level in the atheromatous plaque and smooth muscle cells in the vicinity of the lesion for a period of about 5-18 days, the period in which cell proliferation can occur. The photosensitizer inhibits smooth muscle cell proliferation and, thus, minimizes or eliminates the possibility of re-stenosis. The photosensitizer is then illuminated at the end of this period, thereby lysing the atheromatous plaque and smooth muscles. The photosensitizer inhibits atheromatic smooth muscle cell proliferation.

**14 Claims, 4 Drawing Sheets**